IN THE CLAIMS:

1. (currently amended) A transmission type illumination device for stereomicroscopes, ~~at least~~ comprising[[,]]:

~~in order from~~

a light source[[,]]:

a collector lens <u>located on an exit side of said light source;</u>[[,]]

a diffuser <u>located on an exit side of said collector</u> ~~and a convex~~ lens;[[,]]

<u>a convex lens located on an exit side of said diffuser;</u>

<u>a polarizing mirror located on an exit side of said convex lens to change an optical axis of said light source;</u>

<u>at least one lens element located on an exit side of said polarizing mirror and nearest to a view surface side; and</u>

<u>an optical element having a periodical structure in a one-dimensional direction, said optical element being interposed between said polarizing mirror and said at least one lens element.</u>

~~wherein an optical element having a periodical structure in a one-dimensional direction is located in the vicinity of a lens located nearest to a viewing surface side.~~

2. (original) The transmission type illumination device according to claim 1, wherein the optical element having a periodical structure in a one-dimensional direction satisfies the following condition (1) with respect to an angle α for splitting a light beam incident on the optical element:

$$0.5D/L < \tan\alpha < 0.9D/L \qquad \ldots (1)$$

where D is a effective diameter of a secondary light source, and L is a distance from the optical

element having a periodical structure in a one-dimensional direction to the secondary light source.

3. (currently amended) A stereomicroscope incorporating a transmission type illumination system ~~at least~~ ~~comprising in order from a light source~~ a ~~collector lens and a diffuser~~ which comprises a transmission type illumination device <u>according to claim 1,</u> wherein an angular aperture for illumination of an object under observation fully satisfies a pupil of a viewing optical system, wherein said angular aperture has an aspect ratio of 1:1.2 to 1:2.